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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,737	07/24/2003	Koji Dairiki	0756-7176	8059

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EXAMINER	
AU, BAC H	
ART UNIT	PAPER NUMBER
2822	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/625,737	DAIRIKI, KOJI	
	Examiner	Art Unit	
	Bac H. Au	2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) *2,4,6,8,10 and 12-18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5,7,9,11 and 19-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/970,908.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *24 July 2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on September 14, 2006, in which claims 1, 3 and 5 were amended, and claims 2, 4, 6, 8, 10, and 12-18 were withdrawn, has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1,3, 5, 7, 9, 11 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai (U.S. Pat. 6,333,493) in view of Ballantine (U.S. Pat. 6,105,274).

Regarding claims 1,3, 5, 7, 9, 11 and 19-21, Sakurai discloses a heat treatment method comprising the step of:

heating a treatment object by irradiating it through radiation from a lamp light source [Col. 7, lines 8-15, col. 12, lines 65-67, col. 13, lines 1-3].

wherein said lamp light source is turned on and the radiation from said lamp light source lasts 0.1 to 20 seconds at a time; wherein the radiation from said lamp light source is repeated several times [Col. 1, lines 65-67, col. 2, lines 1-5, col. 8, lines 48-60, col. 9, lines 25-30, col. 11, lines 23-30, col. 13, lines 53-57, col. 18, lines 20-35, col. 19, lines 5-18, col. 22, lines 13-35, col. 24, lines 23-37, col. 25, lines 5-10; col. 9, lines 14-

20 discloses the input voltage is controlled at an interval of 0.5 seconds so as to stabilize the temperature with the temperature set in advance by the control device];

wherein the lamp light source is turned off and cooling the object [Fig. 18, col. 7, lines 19-24; col. 10, lines 37-47];

wherein said lamp light source is selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon lamp, a high pressure mercury lamp, a high pressure sodium lamp and an excimer lamp [Col.7 lines 8-14].

Sakurai does not specifically show holding the treatment object in a processing chamber filled with a coolant; the supply of the coolant being kept during the radiation;

wherein the temperature drop rate by the supply of the coolant is 50 to 150°C per second; and

wherein the coolant is an inactive gas comprising at least one of nitrogen or helium.

However, Ballantine is presented as evidence to show that holding the treatment object in a processing chamber filled with a coolant is conventional in the art. Ballantine [Abstract, col. 2, lines 27-67, col. 3, lines 1-65, col. 4, lines 1-67, col. 5, lines 1-32, 50-63] discloses holding the treatment object in a processing chamber filled with a coolant, the coolant being nitrogen or helium, and increasing or decreasing the amount of the coolant wherein the temperature drop rate by the supply of the coolant is 50 to 150°C per second [Col.4 lines 24-32, lines 44-49]. Ballantine also discloses keeping the

supply of coolant at any desired point, before, during, and/or after heating the treatment object [Col. 3, lines 62-67; col. 4, lines 25-67].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Ballantine into the method of Sakurai to include the limitations discussed. The ordinary artisan would have been motivated to modify Sakurai by applying a coolant to the treatment object and the coolant being nitrogen or helium as taught by Ballantine in order to minimize the time that the object stays at undesirable temperatures [Ballantine; col. 3 lines 10-20].

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1,3, 5, 7, 9, 11 and 19-21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 13-24 of copending Application No. 10/001,197 in view of Ballantine (U.S. Pat. 6,105,274). Claims 13-24 of '197 discloses most of the limitations of the claims, but fails to disclose wherein the temperature drop rate by the supply of the coolant is 50 to 150°C per second. However, Ballantine [Col.4 lines 24-49] discloses wherein the temperature drop rate by the supply of the coolant is 50 to 150°C per second. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Ballantine into the method of '197 to include the limitations discussed. The ordinary artisan would have been motivated to modify '197 by applying a coolant to the treatment object in order to minimize the time that the object stays at undesirable temperatures [Ballantine; col. 3 lines 10-20].

This is a provisional obviousness-type double patenting rejection.

4. Claims 1 and 19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 14 and 20 of U.S. Patent No. 6759313 in view of Ballantine (U.S. Pat. 6,105,274). Claims 14 and 20 of '313 discloses most of the limitations of the claims, but fails to disclose wherein the temperature drop rate by the supply of the coolant is 50 to 150°C per second. However, Ballantine [Col.4 lines 24-49] discloses wherein the temperature drop rate by the supply of the coolant is 50 to 150°C per second. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Ballantine into the

method of '313 to include the limitations discussed. The ordinary artisan would have been motivated to modify '313 by applying a coolant to the treatment object in order to minimize the time that the object stays at undesirable temperatures [Ballantine; col. 3 lines 10-20].

Response to Arguments

5. Applicant's arguments filed September 14, 2006 have been fully considered and have been adequately treated above.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bac H. Au whose telephone number is 571-272-8795. The examiner can normally be reached on Mon-Fri 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on 571-272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BHA

Zandra V. Smith
Supervisory Patent Examiner
1 March 2007